



NORATOM DIVISION

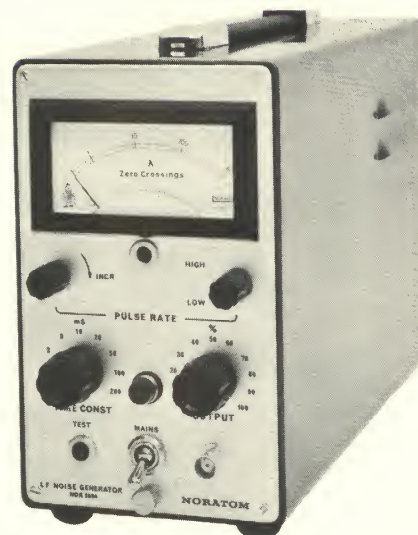
MODEL NOR 5004

NOISE GENERATOR 0-200 CPS

NOR 5004 NOISE GENERATOR

FEATURES

- GENERATES
 - TRUE RANDOM NOISE
 - SQUARE WAVE SIGNAL OR GAUSSIAN AMPLITUDE DISTRIBUTED
- OUTPUT VOLTAGE
 - SQUARE WAVE 40V p-p
 - GAUSSIAN AMPLITUDE DISTRIBUTED 5V rms
 - DC CONTENT <20 mv
 - MINIMUM LOAD 5 k ohms
- BANDWIDTH
 - SQUARE WAVE SIGNAL UNFILTERED UPPER FREQUENCY 3 db POINT ADJUSTABLE FROM 0.5 cps TO 200 cps
 - LOWER FREQUENCY ALWAYS DOWN TO 0 cps
 - GAUSSIAN AMPLITUDE DISTRIBUTED 1/10 OF UNFILTERED BANDWIDTH
 - LOW-PASS RC FILTER -20 db/DECADE
 - FILTER TIME CONSTANTS 0, 1, 2, 5, 10, 20, 50, 100, 200 ms PLUS EXTERNAL C
- TRANSISTORIZED
- PHYSICAL
 - WEIGHT 10 lb 5 kg
 - WIDTH 4 $\frac{3}{8}$ " 110 mm
 - HEIGHT 7 $\frac{1}{2}$ " 190 mm
 - LENGTH 12" 305 mm
 - TEMPERATURE 0°C to + 40°C
 - POWER 115/230 V 50/60 CPS 18W
- PRICE \$1,472
FOB SYRACUSE TAX EXTRA



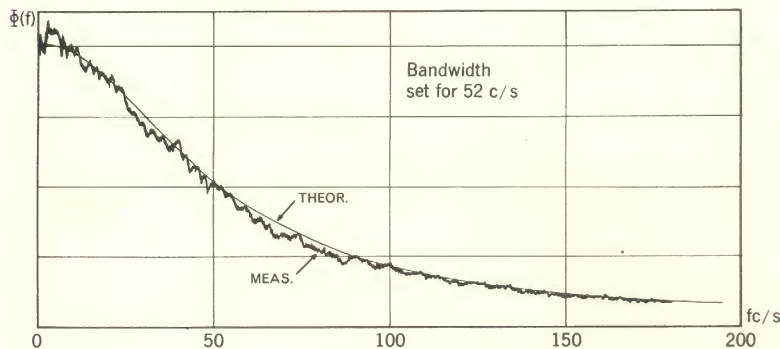
OPERATION

By utilizing carbon 14 and a Geiger-Muller tube, a true random noise source is obtained. By varying the number of events the GM tube sees, the upper cutoff frequency of the noise may be adjusted from 0.5 cps to 200 cps. The noise always extends down to 0 cps. With a change of band width the energy output remains constant. Gaussian amplitude probability distributed output is provided by switching in the adjustable RC low-pass filter. Calibration curves are provided to determine the amplitude and energy output for all control settings.

APPLICATION

In modern communication systems, process control or guidance systems the analysis of the servo loop, utilizing noise theory, is becoming increasingly important. Noise in the system is often the limiting factor and for many cases noise injected into the system can be used to determine optimum system settings.

The noise generator NOR 5004 was developed particularly for use with the NOR 5003 Statistical Analogue Computer. It is well suited for use with any computer. It is a precision laboratory instrument utilizing solid state circuits. Components and workmanship are of the highest commercial standard. Because of the light weight and low power consumption NOR 5003 is ideal for field use.



Measured power spectrum of unfiltered noise compared with theoretical curve



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